

Protocol Development Summary

Western Snowy Plover (Updated 12/15/09)

Parks where protocol will be implemented: PORE

Justification/Issues being addressed:

Western snowy plovers are good indicators of the condition of the native coastal dunes ecosystem and are the only nesting shorebird in the coastal habitats at Point Reyes National Seashore (PORE). Western Snowy Plover (*Charadrius alexandrinus nivosus*) are also listed as federally threatened under the Endangered Species Act (USFWS 2007). The goal of the NPS is to monitor the long-term status and trends of the breeding population at PORE and to maintain a stable or increasing populations. Despite active management the goal of 25 breeding pairs established by the USFWS Snowy Plover Recovery Plan has not been met (USFWS 2007).

Western Snowy Plovers were initially monitored at PORE in the 1970's by PRBO Conservation Science (PRBO) and the current protocol was used from 1986 to 1989, and started again in 1995 when declines were significant across the species' range and in particular at PORE beaches. Managers at PORE in conjunction with PRBO Plover Biologists have developed an adaptive management program (White and Allen 1999). The program is structured to collect long-term population data and respond to shifts in distribution and in order to protect these natural resources. Monitoring efforts have focused on the response of nesting birds to management actions enacted by the park. Loss of habitat, predators, and recreational activities, such as dog walking, are known to cause significant amount of disturbance to the breeding population of snowy plovers. Management activities have focused on the erection of predator exclosures around nests and a volunteer docent program that informs visitors about the nesting birds. Reports have been written annually (see Hughey in prep, Peterlein 2007).

Monitoring is also conducted in coordination with other agencies and groups including USFWS Wildlife Refuges (San Francisco Bay), NOAA- Marine Sanctuaries (BEACH WATCH and COAST WATCH programs); and PRBO Conservation Science. Data are used by NPS and FWS for reporting on ESA and for guiding conservation of the species with targets to delist.

Monitoring Questions

1. What is the Western Snowy Plover breeding population size at PORE?
2. What are the short-term (<5 years) and long-term trends for the population size?
3. Do breeding locations change annually?
4. What is the annual fecundity (i.e., number of fledged young per male)?
5. Are human or management activities affecting plover breeding sites?
6. What are the causes of mortality of eggs, young, and adults?

Monitoring Objectives

The overall goals of the Western Snowy Plover Long-term Monitoring Program are to:

1. Conduct twice weekly census of Snowy Plovers along all historically used beaches during the breeding season (March to September).
2. Conduct surveys to determine changes of reproductive success (percent of nests with at least one egg hatching, percent of eggs that hatch, percent of chicks that fledge).

Basic Approach:

The I&M Program has agreed to update the existing protocol to ensure that it meets standards established by the national I&M program. The network has also agreed to facilitate the peer review process as developed by the PWR Monitoring Coordinator. Monitoring, however, will be funded and implemented by Point Reyes National Seashore. Technical assistance with reporting or data analyses may be provided by the network I&M program on a case-by-case consideration.

Frequency:

Yearly

Timing:

Breeding Season (Mar. - Sept.)

Principal Investigators and NPS Lead:

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Literature:

Hughey, L. in prep. Reproductive success of Snowy Plovers at Point Reyes National Seashore in 2009. NPS/SFAN/NRTR—XXX. National Park Service, Fort Collins, Colorado.

Peterlein, C.R. 2007. Reproductive success of Snowy Plovers at Point Reyes National Seashore in 2007. A report of PRBO Conservation Science, Stinson Beach, CA. Contribution 1608.

U.S. Fish and Wildlife Service. 2007. Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). In 2 volumes. Sacramento, California. xiv + 751 pages.

White, J.D., and S.G. Allen. 1999. Draft western Snowy Plover management plan, Point Reyes National Seashore, Point Reyes, CA.